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FOREST RESOURCES OF CENTRAL FLORIDA, 1949

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TALLAHASSEE, FLORIDA
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FOREWORD

Through the McSweeney-McNary Act of 1928, Congress authorized the Secretary of Agriculture to conduct a comprehensive survey of the forest resources of the United States. The Forest Survey was organized by the Forest Service to carry out the provisions of the Act through the Regional Forest Experiment Stations. In the Southeastern states the Forest Survey is an activity of the Division of Forest Economics of the Southeastern Forest Experiment Station, Asheville, North Carolina.

The five-fold purpose of the Forest Survey is (1) to make a field inventory of the present supply of standing timber, (2) to ascertain the rate at which this supply is being increased through growth, (3) to determine the rate at which it is being reduced through industrial and domestic uses, fire, and other causes, (4) to determine the present consumption and the probable future trend in requirements for forest products, and (5) to interpret and correlate these finds to aid in the formulation of private and public policies regarding forest land management.

The State of Florida was inventoried by the Forest Survey in the period 1934-36 and reports presenting the findings have been published. Since then, better forest management, more intensive forest use, changes in land use, and other factors have caused changes in the forest growing stock that can only be measured accurately by on-the-ground surveys. A resurvey of the forest resources of Florida is now under way. This progress report presents area and volume statistics of the resurvey in Central Florida (Survey Unit No. 3). A statistical report covering Northeast Florida, Survey Unit No. 1, was published June 15, 1949. Reports covering the remainder of the State will be published in the near future. When complete statistical data are available, an analytical report will be prepared which will interpret these statistics and focus attention upon the principal forest problems and possible solutions.

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Office compilation of the data was under the direction of Miss Agnes Creasman, assisted by Mrs. Christine Paxton, Miss Priscilla Walker, and Miss Camilla Young.

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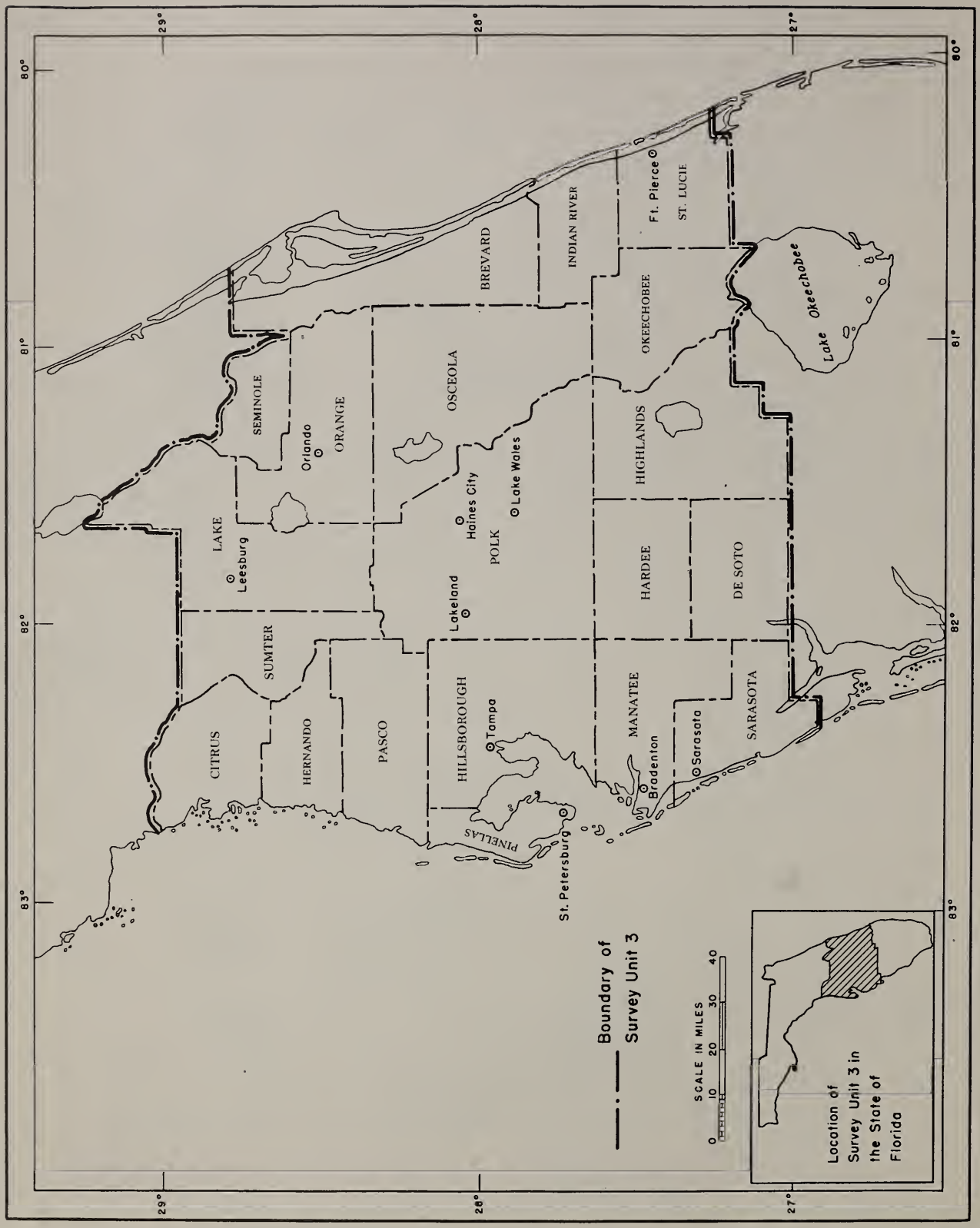


Figure 1.--Counties in Central Florida included in Survey Unit No. 3

FOREST RESOURCES OF CENTRAL FLORIDA

A resurvey of the forest resources of Florida was made in the period from June, 1948 to August, 1949. Each county in the state was surveyed, and this report presents up-to-date statistics on forest area and timber volumes for the group of 20 counties in Central Florida designated Survey Unit 3 (fig. 1). Comparison of these statistics with those of the original Forest Survey, completed in 1936, show the changes which have taken place in 13 years.

1949 FACTS AND SIGNIFICANT CHANGES

Acreage of forest land decreases: In 1949 there were 6.0 million acres of forest land in the Central Florida Unit, five percent less than in 1936. The decrease is largely due to land clearing for pasture and other agricultural uses. Forest land now amounts to 61 percent of all the land in the unit. Of the total forest, 5.7 million acres were classed as commercial forest land.

More forest land in hardwood types: Since 1936 the acreage of commercial forest land in pine types has decreased 25 percent, from 5.2 million to 3.9 million acres. The total area in hardwood types has more than doubled, increasing from 0.6 million to 1.6 million acres. This trend to hardwood types is also evident in other sections of Florida. The turpentine pine types decreased 26 percent in area, while the upland hardwood type, including areas of scrub oak, nearly tripled in acreage. However, pine types still predominate, since they currently occupy 68 percent of the commercial forest land.

Saw-timber volume decreases: The total volume of saw timber in 1949 was estimated to be 3.3 billion board feet. This total includes 181 million board feet in hardwoods 12 inches d.b.h., which were not considered saw timber in the original survey. The volume of these 12-inch hardwoods has been omitted in Table A to make the volumes comparable.

Table A.--Change in volume of saw timber, 1936 to 1949

Species group	1936	1949	Change
	Thousand bd. ft.	Thousand bd. ft.	Percent
Pines	2,566,800	1,794,200	- 30
Hardwoods 1/	642,900	619,200	- 4
Cypress 2/	613,200	732,800	+ 20
All species	3,822,900	3,146,200	- 18

1/ Excludes volume of hardwoods 12 inches d.b.h.

2/ Includes volume of white cedar.

Saw-timber stands occupy 55 percent of forest land: Stands of saw timber containing 1,500 board feet or more per acre occupied 55 percent of the commercial forest area in 1949. Over four-fifths of these stands fell into the small saw-timber class (see definition of terms, p. 30). Fourteen percent of the remaining forest area supported stands of pole timber, only three percent was in reproduction, and 28 percent was either unstocked or covered lightly with scattered trees of various sizes. No direct comparisons of forest area by stand class are possible between the original and current surveys, because different standards were used.

Total sound-tree volume decreases: The net cubic-foot volume of all sound trees 5.0 inches d.b.h. and larger decreased 6 percent, following the trend in saw-timber volume.

The volume of sound wood in cull trees increased for all species groups. The most significant change was in hardwood species, where the cull-tree volume is more than twice as great as it was in 1936.

Table B.--Change in volume of all trees 5.0 inches d.b.h. and larger, 1936 to 1949

Species group	Sound tree volume			Cull tree volume		
	1936	1949	Change	1936	1949	Change
	Million cu. ft.	Million cu. ft.	Percent	Million cu. ft.	Million cu. ft.	Percent
Pines 1/	756	611	- 19	18	22	+ 22
Hardwoods 2/	320	327	+ 2	271	583	+ 115
Cypress	286	343	+ 20	26	69	+ 165
All species	1,362	1,281	- 6	315	674	+ 114

1/ Excluding turpentine butts.

2/ Excluding limb volume of sound hardwood trees.

Area in working turpentine crops decreases: In 1949 there were only 39,100 acres in working turpentine timber crops, compared to 157,000 acres in 1936. The number of turpentine pine trees being worked also decreased heavily, from 2,434,000 in 1936 to 820,000 in 1949.

Eighty-five percent of the forest land is understocked: Most of the commercial forest land in the Unit is in a poorly stocked condition. Three-and-one-half million acres are denuded or very poorly stocked and 1.4 million acres are between 10 and 39 percent stocked with an adequate number of sound trees. This area of 4.9 million acres, less than 40 percent stocked, amounts to 85 percent of the total commercial forest land area.

Table 1.--Gross area[1/] by broad use class, 1949

Class of use	Area	
	Acres	Percent
Forest land:		
Commercial	5,747,200	52.9
Reserved	11,900	0.1
Non-productive	220,100	2.0
Total forest	5,979,200	55.0
Non-forest land:		
Agricultural - active	1,136,100	10.4
Agricultural - idle	234,400	2.1
Marsh	2,062,000	19.0
Dunes and beaches	10,700	0.1
Urban and other[2/]	356,600	3.3
Total non-forest	3,799,800	34.9
Total land area	9,779,000	89.9
Total water area	1,094,000	10.1
All classes	10,873,000	100.0

1/ From U. S. Bureau of the Census, 1940.

2/ Includes urban, suburban residential, and rural industrial areas, rights-of-way, cemeteries, schools, etc.

Table 2.--Ownership of land, 1949

Class of ownership	All land		Commercial forest land	
	Acres	Percent	Acres	Percent
Public land:				
National forest	70,300	0.7	65,500	1.1
Indian	--	--	--	--
Other federal	249,500	2.5	170,400	3.0
Total federal	319,800	3.2	235,900	4.1
State	88,800	0.9	36,700	0.6
County and municipal	45,900	0.5	22,900	0.4
Total public	454,500	4.6	295,500	5.1
Private land	9,324,500	95.4	5,451,700	94.9
All classes	9,779,000	100.0	5,747,200	100.0

Table 3.--Commercial forest area by forest type and stand size, 1949

Forest type[1/]	Large saw-timber stands	Small saw-timber stands	Pole timber stands	Seedling & sapling stands	Poorly stocked stands & unstocked areas	All stands
	Acres	Acres	Acres	Acres	Acres	Acres
Longleaf pine	--	96,500	304,800	76,800	2,093,300	2,571,400
Slash pine	13,600	86,600	83,400	47,000	901,100	1,131,700
Loblolly pine[2/]	2,600	3,400	2,600	2,700	33,600	44,900
Pond pine	2,600	1,700	2,600	13,900	51,500	72,300
Sand pine	--	--	5,200	8,400	71,900	85,500
Cypress	--	124,900	111,800	37,700	12,900	287,300
All sftwd. types	18,800	313,100	510,400	186,500	3,164,300	4,193,100
Lowland hardwoods	65,700	111,200	156,600	147,300	259,400	740,200
Upland hardwoods	--	--	--	5,100	172,800	177,900
Scrub oak	--	--	--	--	555,400	555,400
All hdwd. types	65,700	111,200	156,600	152,400	987,600	1,473,500
Palm	--	--	--	--	80,600	80,600
All types	84,500	424,300	667,000	338,900	4,232,500	5,747,200
Percent	1.5	7.4	11.6	5.9	73.6	100.0

1/ See description of forest types and stand size classes in appendix.

2/ Includes 20,600 acres of redcedar type.

Table 4.--Net volume[1/] of saw timber by species and stand size, 1949

(in thousand board feet)

Species[2/]	Large saw-timber stands	Small saw-timber stands	Pole timber stands	Seedling & sapling stands	Poorly stocked stands & unstocked areas	All stands
Softwoods:						
Longleaf pine	--	263,400	167,900	10,400	398,400	840,100
Slash pine	54,900	298,200	116,600	17,600	361,100	848,400
Loblolly pine	9,000	6,800	2,300	--	37,400	55,500
Pond pine	6,900	8,200	2,000	6,400	18,600	42,100
Other pines	--	--	--	900	7,200	8,100
Total	70,800	576,600	288,800	35,300	822,700	1,794,200
Cypress	10,000	567,000	82,600	20,200	29,300	709,100
Cedar	4,300	2,300	3,700	--	13,400	23,700
Total sftwds.	85,100	1,145,900	375,100	55,500	865,400	2,527,000
Hardwoods:						
Tupelo	25,000	126,900	15,400	8,100	16,400	191,800
Sweetgum	39,600	59,800	16,700	17,000	4,300	137,400
Soft maple	20,700	48,000	7,600	4,300	2,000	82,600
Other soft hdwds.	35,500	54,000	14,300	5,300	7,500	116,600
Total	120,800	288,700	54,000	34,700	30,200	528,400
Red oaks	29,900	37,700	21,700	1,100	3,100	93,500
White oaks	43,700	9,300	3,800	1,800	3,500	62,100
Hickory	9,900	5,700	2,600	1,300	1,700	21,200
Ash	12,000	37,400	4,100	1,900	3,800	59,200
Other hard hdwds.	11,900	8,400	9,000	600	5,700	35,600
Total	107,400	98,500	41,200	6,700	17,800	271,600
Total hdwds.	228,200	387,200	95,200	41,400	48,000	800,000
All species	313,300	1,533,100	470,300	96,900	913,400	3,327,000
Percent	9.4	46.1	14.1	2.9	27.5	100.0

1/ Log scale, International 1/4-inch rule.

2/ See appendix for species combined with others.

Table 5.--Net volume[1/] of saw timber by species and diameter class, 1949

Species	10-12 inches[2/]	14-18 inches	20-24 inches	26 + inches	All diameters	
	Thousand bd. ft.	Thousand bd. ft.	Thousand bd. ft.	Thousand bd. ft.	Thousand bd. ft.	Percent
Softwoods:						
Longleaf pine	702,300	134,300	3,500	--	840,100	25.2
Slash pine	504,100	281,000	63,300	--	848,400	25.5
Loblolly pine	27,000	28,500	--	--	55,500	1.7
Pond pine	20,400	15,900	5,800	--	42,100	1.3
Other pines	8,100	--	--	--	8,100	0.2
Total	1,261,900	459,700	72,600	--	1,794,200	53.9
Cypress	468,000	236,700	4,400	--	709,100	21.3
Cedar	14,500	9,200	--	--	23,700	0.7
Total sftwds.	1,744,400	705,600	77,000	--	2,527,000	75.9
Hardwoods:						
Tupelo	51,900	95,500	27,200	17,200	191,800	5.8
Sweetgum	29,200	88,700	19,500	--	137,400	4.1
Soft maple	20,300	48,500	7,500	6,300	82,600	2.5
Other soft hdwds.	25,800	70,000	20,800	--	116,600	3.5
Total	127,200	302,700	75,000	23,500	528,400	15.9
Red oaks	16,400	41,400	34,600	1,100	93,500	2.8
White oaks	5,100	11,600	5,100	40,300	62,100	1.9
Hickory	700	7,800	12,700	--	21,200	0.6
Ash	19,400	37,900	1,900	--	59,200	1.8
Other hard hdwds.	12,000	20,500	1,700	1,400	35,600	1.1
Total	53,600	119,200	56,000	42,800	271,600	8.2
Total hdwds.	180,800	421,900	131,000	66,300	800,000	24.1
All species	1,925,200	1,127,500	208,000	66,300	3,327,000	100.0
Percent	57.9	33.9	6.2	2.0	100.0	

1/ Log scale, International 1/4-inch rule.

2/ Ten-inch hardwoods are not included.

Table 6.--Net volume[1/] of saw timber by forest type and stand size, 1949

(in thousand board feet)

Forest type[2/]	Large saw-timber stands	Small saw-timber stands	Pole timber stands	Seedling & sapling stands	Poorly stocked stands & unstocked areas	All stands
Longleaf pine	--	267,800	164,300	8,700	392,500	833,300
Slash pine	54,200	297,700	88,800	6,000	325,500	772,200
Loblolly pine	8,800	7,400	1,800	600	50,400	69,000
Pond pine	6,900	5,400	2,000	6,300	6,300	26,900
Sand pine	--	--	--	900	6,900	7,800
Cypress	--	555,300	85,800	12,200	12,100	665,400
All sftwd. types	69,900	1,133,600	342,700	34,700	793,700	2,374,600
Lowland hardwoods	243,400	399,500	127,600	62,200	65,100	897,800
Upland hardwoods	--	--	--	--	10,600	10,600
Scrub oak	--	--	--	--	44,000	44,000
All hdwd. types	243,400	399,500	127,600	62,200	119,700	952,400
All types	313,300	1,533,100	470,300	96,900	913,400	3,327,000
Percent	9.4	46.1	14.1	2.9	27.5	100.0

1/ Log scale, International 1/4-inch rule.

2/ See description of forest types and stand-size classes in appendix.

Table 7.--Net volume[1/] of all trees by species and stand size, 1949

SOUND TREES (in thousand cords)

Species	Large saw-timber stands	Small saw-timber stands	Pole timber stands	Seedling & sapling stands	Poorly stocked stands & unstocked areas	All stands
Softwoods:						
Longleaf pine	--	980	1,573	125	1,835	4,513
Slash pine	150	1,103	775	99	1,581	3,708
Loblolly pine	27	22	13	1	97	160
Pond pine	24	24	15	18	77	158
Other pines	--	--	54	12	31	97
Total	201	2,129	2,430	255	3,621	8,636
Cypress	34	2,730	1,340	200	137	4,441
Cedar	15	6	10	--	51	82
Total sftwds.	250	4,865	3,780	455	3,809	13,159
Hardwoods:						
Tupelo	76	565	166	152	63	1,022
Sweetgum	116	241	190	66	37	650
Soft maple	64	266	216	87	82	715
Other soft hdwds.	147	242	155	65	49	658
Total	403	1,314	727	370	231	3,045
Red oaks	105	136	237	6	68	552
White oaks	117	52	21	5	31	226
Hickory	26	14	23	8	8	79
Ash	62	237	68	24	34	425
Holly, dogwood	--	--	12	1	--	13
Other hard hdwds.	61	74	79	11	40	265
Total	371	513	440	55	181	1,560
Total hdwds.	774	1,827	1,167	425	412	4,605
All species	1,024	6,692	4,947	880	4,221	17,764
Percent	5.8	37.7	27.8	4.9	23.8	100.0

TREES OF OTHER QUALITY CLASSES (in thousand cords)

Rough culls						
Softwoods	7	176	141	26	313	663
Hardwoods[2/]	436	1,136	1,054	484	3,361	6,471
Rotten culls	203	718	627	407	616	2,571
Palms	326	539	343	384	2,064	3,656
All other classes	972	2,569	2,165	1,301	6,354	13,361

1/ Sound wood and bark.

2/ Includes scrub oak and noncommercial species.

Table 8.--Net volume[1/] of all trees by species and diameter class, 1949

SOUND TREES (in thousand cords)

Species	Pole trees		Saw-timber trees				All diameters
	6 inches	8 inches	10 inches	12 inches	14-18 inches	20 + inches	
Softwoods:							
Longleaf pine	648	1,510	1,278	739	331	7	4,513
Slash pine	573	857	762	682	697	137	3,708
Loblolly pine	5	11	11	63	70	--	160
Pond pine	33	15	16	42	39	13	158
Other pines	46	29	6	16	--	--	97
Total	1,305	2,422	2,073	1,542	1,137	157	8,636
Cypress	1,412	1,207	690	562	561	9	4,441
Cedar	15	8	24	14	21	--	82
Total sftwds.	2,732	3,637	2,787	2,118	1,719	166	13,159
Hardwoods:							
Tupelo	157	191	178	147	243	106	1,022
Sweetgum	56	120	121	84	225	44	650
Soft maple	186	181	136	58	122	32	715
Other soft hdwds.	93	123	128	78	185	51	658
Total	492	615	563	367	775	233	3,045
Red oaks	112	120	77	48	109	86	552
White oaks	6	32	33	15	31	109	226
Hickory	10	9	7	2	20	31	79
Ash	62	137	66	57	98	5	425
Holly, dogwood	11	2	--	--	--	--	13
Other hard hdwds.	53	73	44	35	52	8	265
Total	254	373	227	157	310	239	1,560
Total hdwds.	746	988	790	524	1,085	472	4,605
All species	3,478	4,625	3,577	2,642	2,804	638	17,764
Percent	19.6	26.0	20.1	14.9	15.8	3.6	100.0

TREES OF OTHER QUALITY CLASSES (in thousand cords)

Rough culls							
Softwoods	235	132	85	93	64	54	663
Hardwoods[2/]	1,539	1,037	920	1,046	1,058	871	6,471
Rotten culls	161	306	292	276	732	804	2,571
Palms	129	556	1,632	1,083	256	--	3,656
All other classes	2,064	2,031	2,929	2,498	2,110	1,729	13,361

1/ Sound wood and bark.

2/ Includes scrub oak and noncommercial species.

Table 9.--Net volume[1/] of all trees by species and class of material, 1949

(in thousand cords)

Species	SOUND TREES				CULL TREES	
	Saw-timber trees		Pole timber trees	Total sound trees	Rough	Rotten
	Sawlog portion	Upper stems				
Softwoods:						
Longleaf pine	1,906	449	2,158	4,513	50	18
Slash pine	1,817	461	1,430	3,708	141	17
Loblolly pine	115	29	16	160	12	--
Pond pine	89	21	48	158	19	1
Other pines	18	4	75	97	57	--
Total	3,945	964	3,727	8,636	279	36
Cypress	1,474	348	2,619	4,441	333	453
Cedar	48	11	23	82	51	3
Total sftwds.	5,467	1,323	6,369	13,159	663	492
Hardwoods:						
Tupelo	408	88	526	1,022	269	276
Sweetgum	289	64	297	650	314	90
Soft maple	169	43	503	715	621	419
Other soft hdwds.	253	61	344	658	420	185
Total	1,119	256	1,670	3,045	1,624	970
Red oaks	199	44	309	552	674	480
White oaks	121	34	71	226	1,666	334
Hickory	41	12	26	79	30	9
Ash	127	33	265	425	398	216
Holly, dogwood	--	--	13	13	3	2
Scrub oak[2/]	--	--	--	--	1,918	--
Other hard hdwds.	74	21	170	265	158	68
Total	562	144	854	1,560	4,847	1,109
Total hdwds.	1,681	400	2,524	4,605	6,471	2,079
All species	7,148	1,723	8,893	17,764	7,134	2,571
Percent	40.2	9.7	50.1	100.0	73.5	26.5

1/ Sound wood and bark, excluding volume of palms shown in tables 7 and 8.

2/ Includes noncommercial species.

Table 10.--Net volume[1/] of all trees by forest type and stand size, 1949

SOUND TREES (in thousand cords)

Forest type	Large saw-timber stands	Small saw-timber stands	Pole timber stands	Seedling & sapling stands	Poorly stocked stands & unstocked areas	All stands
Longleaf pine	--	1,029	1,586	121	1,785	4,521
Slash pine	148	1,114	689	23	1,545	3,519
Loblolly pine	28	45	8	3	156	240
Pond pine	24	13	16	18	21	92
Sand pine	--	--	54	12	26	92
Cypress	--	2,816	1,230	191	48	4,285
All sftwd. types	200	5,017	3,583	368	3,581	12,749
Lowland hdwds.	824	1,675	1,364	511	451	4,825
Upland hdwds.[2/]	--	--	--	1	46	47
Scrub oak	--	--	--	--	143	143
All hdwd. types	824	1,675	1,364	512	640	5,015
All types	1,024	6,692	4,947	880	4,221	17,764
Percent	5.8	37.7	27.8	4.9	23.8	100.0

ROUGH AND ROTTEN CULLS (in thousand cords)

Longleaf pine	--	219	70	30	717	1,036
Slash pine	18	107	18	--	221	364
Loblolly pine	27	24	11	23	65	150
Pond pine	--	1	--	13	9	23
Sand pine	--	--	10	--	17	27
Cypress	--	614	244	65	69	992
All sftwd. types	45	965	353	131	1,098	2,592
Lowland hdwds.	601	1,065	1,469	738	1,507	5,380
Upland hdwds.[3/]	--	--	--	48	855	903
Scrub oak	--	--	--	--	830	830
All hdwd. types	601	1,065	1,469	786	3,192	7,113
All types	646	2,030	1,822	917	4,290	9,705
Percent	6.7	20.9	18.8	9.4	44.2	100.0

1/ Sound wood and bark, excluding volume of palms shown in tables 7 and 8.

2/ Includes 1,000 cords in palm type.

3/ Includes 22,000 cords in palm type.

Table 11.--Net volume[1] of pole timber trees by forest type and stand size, 1949

SOUND TREES (in thousand cords)

Forest type	Large saw-timber stands	Small saw-timber stands	Pole timber stands	Seedling & sapling stands	Poorly stocked stands & unstocked areas	All stands
Longleaf pine	--	279	1,116	96	705	2,196
Slash pine	19	291	434	6	673	1,423
Loblolly pine	5	24	4	1	28	62
Pond pine	6	--	10	--	4	20
Sand pine	--	--	54	10	7	71
Cypress	--	1,384	1,001	161	15	2,561
All sftwd. types	30	1,978	2,619	274	1,432	6,333
Lowland hdwds.	225	625	1,022	353	289	2,514
Upland hdwds[2]	--	--	--	1	20	21
Scrub oak	--	--	--	--	25	25
All hdwd. types	225	625	1,022	354	334	2,560
All types	255	2,603	3,641	628	1,766	8,893
Percent	2.9	29.3	40.9	7.1	19.8	100.0

ROUGH AND ROTTEN CULLS (in thousand cords)

Longleaf pine	--	207	48	13	376	644
Slash pine	11	24	17	--	143	195
Loblolly pine	1	9	3	1	8	22
Pond pine	--	--	--	--	1	1
Sand pine	--	--	10	--	5	15
Cypress	--	290	165	30	11	496
All sftwd. types	12	530	243	44	544	1,373
Lowland hdwds.	152	379	687	361	677	2,256
Upland hdwds.[3]	--	--	--	12	230	242
Scrub oak	--	--	--	--	696	696
All hdwd. types	152	379	687	373	1,603	3,194
All types	164	909	930	417	2,147	4,567
Percent	3.6	19.9	20.4	9.1	47.0	100.0

1/ Sound wood and bark, excluding volume of palms shown in tables 7 and 8.

2/ Includes 1,000 cords in palm type.

3/ Includes 4,000 cords in palm type.

Table 12.--Net volume[1/] of all trees by species and diameter class, 1949

SOUND TREES (in thousand cubic feet)

Species	Pole trees		Saw-timber trees				All diameters
	6 inches	8 inches	10 inches	12 inches	14-18 inches	20 + inches	
Softwoods:							
Longleaf pine	38,178	102,207	92,520	55,816	26,506	642	315,869
Slash pine	33,737	57,537	55,201	51,572	55,354	11,471	264,872
Loblolly pine	305	690	774	4,798	5,576	--	12,143
Pond pine	1,951	939	1,159	3,184	3,113	1,063	11,409
Other pines	2,741	1,901	383	1,243	--	--	6,268
Total	76,912	163,274	150,037	116,613	90,549	13,176	610,561
Cypress	92,827	91,486	55,038	47,729	48,665	823	336,568
Cedar	1,018	614	1,914	1,185	1,823	--	6,554
Total sftwds.	170,757	255,374	206,989	165,527	141,037	13,999	953,683
Hardwoods:							
Tupelo	9,563	12,295	12,433	11,250	19,473	8,760	73,774
Sweetgum	3,344	7,795	8,145	6,379	17,770	3,728	47,161
Soft maple	11,253	12,207	9,281	4,359	9,776	2,643	49,519
Other soft hdwds.	5,624	8,108	8,498	5,875	14,738	4,201	47,044
Total	29,784	40,405	38,357	27,863	61,757	19,332	217,498
Red oaks	6,777	7,525	5,544	3,607	8,533	7,109	39,095
White oaks	368	1,907	2,271	1,108	2,358	8,941	16,953
Hickory	590	556	472	146	1,540	2,552	5,856
Ash	3,729	8,506	4,480	4,192	7,628	378	28,913
Holly, dogwood	630	152	--	--	--	--	782
Other hard hdwds.	3,181	4,484	2,838	2,595	4,180	630	17,908
Total	15,275	23,130	15,605	11,648	24,239	19,610	109,507
Total hdwds.	45,059	63,535	53,962	39,511	85,996	38,942	327,005
All species	215,816	318,909	260,951	205,038	227,033	52,941	1,280,688
Percent	16.9	24.9	20.4	16.0	17.7	4.1	100.0

TREES OF OTHER QUALITY CLASSES (in thousand cubic feet)

Rough culls							
Softwoods	14,604	9,588	6,445	7,027	5,484	5,375	48,523
Hardwoods[2/]	93,549	67,899	64,129	78,288	82,433	71,548	457,846
Rotten culls	9,950	19,184	19,493	21,549	58,504	68,695	197,375
Palms	12,027	54,525	165,046	111,380	26,486	--	369,464
All other classes	130,130	151,196	255,113	218,244	172,907	145,618	1,073,208

1/ Excluding bark.

2/ Includes scrub oak and noncommercial species.

Table 13.--Net volume[1/] of all trees by species and class of material, 1949

(in thousand cubic feet)

Species	SOUND TREES				CULL TREES	
	Saw-timber trees		Pole timber trees	Total sound trees	Rough	Rotten
	Sawlog portion	Upper stems				
Softwoods:						
Longleaf pine	143,796	31,688	140,385	315,869	3,645	1,519
Slash pine	141,668	31,930	91,274	264,872	9,128	1,315
Loblolly pine	8,997	2,151	995	12,143	955	--
Pond pine	6,903	1,616	2,890	11,409	1,413	114
Other pines	1,313	313	4,642	6,268	4,158	--
Total	302,677	67,698	240,186	610,561	19,299	2,948
Cypress	125,405	26,850	184,313	336,568	24,163	39,331
Cedar	3,954	968	1,632	6,554	5,061	230
Total sftwds.	432,036	95,516	426,131	953,683	48,523	42,509
Hardwoods:						
Tupelo	32,294	7,189	34,291	73,774	20,134	20,576
Sweetgum	22,692	5,185	19,284	47,161	22,090	6,575
Soft maple	13,671	3,107	32,741	49,519	43,409	30,965
Other soft hdwds.	20,382	4,432	22,230	47,044	28,879	13,415
Total	89,039	19,913	108,546	217,498	114,512	71,531
Red oaks	15,751	3,498	19,846	39,095	47,919	36,813
White oaks	10,046	2,361	4,546	16,953	125,401	25,789
Hickory	3,439	799	1,618	5,856	2,052	631
Ash	9,994	2,204	16,715	28,913	26,018	15,170
Holly, dogwood	--	--	782	782	240	134
Scrub oak[2/]	--	--	--	--	130,749	--
Other hard hdwds.	6,030	1,375	10,503	17,908	10,955	4,798
Total	45,260	10,237	54,010	109,507	343,334	83,335
Total hdwds.	134,299	30,150	162,556	327,005	457,846	154,866
All species	566,335	125,666	588,687	1,280,688	506,369	197,375
Percent	44.2	9.8	46.0	100.0	72.0	28.0

1/ Excluding bark and volume of palms shown in table 12.

2/ Includes noncommercial species.

Table 14.--Average volume[1/] per acre of saw timber by forest type, species group, and stand size, 1949

(in board feet)

Forest type and species group	Large saw-timber stands	Small saw-timber stands	Pole timber stands	Seedling & sapling stands	Poorly stocked stands & unstocked areas	All stands
Longleaf pine						
Softwood	--	2,770	539	113	187	324
Hardwood	--	7	--	--	--	1
Slash pine						
Softwood	4,009	3,360	1,057	128	360	675
Hardwood	--	75	8	--	2	8
Loblolly pine						
Softwood	3,352	1,744	672	--	1,504	1,492
Hardwood	--	395	--	240	--	44
Pond pine						
Softwood	2,648	3,190	756	457	121	371
Hardwood	--	--	--	--	--	--
Sand pine						
Softwood	--	--	--	100	96	90
Hardwood	--	--	--	--	--	--
Cypress						
Softwood	--	3,931	745	293	937	2,079
Hardwood	--	516	23	29	--	237
Lowland hardwoods						
Softwood	231	767	228	152	84	244
Hardwood	3,472	2,826	587	270	167	969
Upland hardwoods						
Softwood	--	--	--	--	46	45
Hardwood	--	--	--	--	15	15
Scrub oak						
Softwood	--	--	--	--	79	79
Hardwood	--	--	--	--	--	--
All types						
Softwood	1,008	2,700	562	164	208	446
Hardwood	2,701	912	143	122	12	141

1/ Log scale, International 1/4-inch rule.

Table 15.--Average volume[1] per acre of all trees by forest type, species group, and stand size, 1949

(in standard cords)

Forest type and species group	Large saw-timber stands		Small saw-timber stands		Pole timber stands		Other stand sizes		All stands	
	Sound[2]	Cull[2]	Sound	Cull	Sound	Cull	Sound	Cull	Sound	Cull
Longleaf pine										
Softwood	--	--	10.4	(3)	5.2	0.1	0.9	0.1	1.7	0.1
Hardwood	--	--	0.3	2.3	(3)	0.2	(3)	0.3	(3)	0.4
Slash pine										
Softwood	10.9	0.3	12.5	0.3	8.1	--	1.6	0.1	3.1	0.1
Hardwood	--	1.0	0.4	1.0	0.1	0.2	(3)	0.1	(3)	0.2
Loblolly pine										
Softwood	9.9	--	5.5	--	2.3	--	4.1	0.4	4.4	0.3
Hardwood	0.8	10.3	7.6	7.0	0.8	4.2	0.3	2.0	0.9	3.0
Pond pine										
Softwood	9.2	--	7.7	0.6	6.1	--	0.6	0.3	1.3	0.3
Hardwood	--	--	--	--	--	--	--	--	--	--
Sand pine										
Softwood	--	--	--	--	10.5	1.9	0.5	0.2	1.1	0.3
Hardwood	--	--	--	--	--	--	--	(3)	--	(3)
Cypress										
Softwood	--	--	19.6	2.4	10.8	1.9	4.5	2.0	13.5	2.1
Hardwood	--	--	2.9	2.5	0.2	0.3	0.2	0.6	1.4	1.3
Lowland hardwoods										
Softwood	0.8	0.2	2.7	0.3	1.5	0.4	0.5	0.2	1.1	0.2
Hardwood	11.7	8.9	12.4	9.3	7.3	9.0	1.9	5.4	5.5	7.0
Upland hardwoods										
Softwood	--	--	--	--	--	--	0.1	--	0.1	--
Hardwood	--	--	--	--	--	--	0.1	3.5	0.1	3.5
Scrub oak										
Softwood	--	--	--	--	--	--	0.3	(3)	0.3	(3)
Hardwood	--	--	--	--	--	--	--	1.5	--	1.5
All types										
Softwood	3.0	0.2	11.5	0.9	5.7	0.4	0.9	0.1	2.3	0.2
Hardwood	9.2	7.4	4.3	3.9	1.7	2.3	0.2	1.0	0.8	1.5

1/ Sound wood and bark, excluding volume of palms.

2/ Sound trees; cull trees.

3/ Less than 0.05 cords per acre.

Table 16.--Average volume[1/] per acre of pole timber trees by forest type, species group, and stand size, 1949

(in standard cords)

Forest type and species group	Large saw-timber stands		Small saw-timber stands		Pole timber stands		Other stand sizes		All stands	
	Sound[2/]	Cull[2/]	Sound	Cull	Sound	Cull	Sound	Cull	Sound	Cull
Longleaf pine										
Softwood	--	--	2.7	--	3.7	(3/)	4.4	(3/)	0.8	(3/)
Hardwood	--	--	0.2	2.1	(3/)	0.2	(3/)	0.2	(3/)	0.2
Slash pine										
Softwood	1.4	--	3.2	(3/)	5.1	--	0.7	0.1	1.2	0.1
Hardwood	--	0.8	0.2	0.3	0.1	0.2	(3/)	(3/)	(3/)	0.1
Loblolly pine										
Softwood	1.1	--	0.9	--	0.8	--	0.5	--	0.6	--
Hardwood	0.8	0.4	6.1	2.6	0.8	1.1	0.3	0.2	0.8	0.5
Pond pine										
Softwood	2.3	--	--	--	3.8	--	0.1	(3/)	0.3	(3/)
Hardwood	--	--	--	--	--	--	--	--	--	--
Sand pine										
Softwood	--	--	--	--	10.5	1.9	0.2	(3/)	0.8	0.2
Hardwood	--	--	--	--	--	--	--	(3/)	--	(3/)
Cypress										
Softwood	--	--	9.5	0.9	8.9	1.2	3.3	0.4	8.2	0.9
Hardwood	--	--	1.6	1.4	0.1	0.3	0.2	0.4	0.8	0.8
Lowland hardwoods										
Softwood	0.2	--	0.8	(3/)	0.9	(3/)	0.2	0.1	0.4	0.1
Hardwood	3.2	2.3	4.9	3.4	5.7	4.4	1.4	2.5	3.0	3.0
Upland hardwoods										
Softwood	--	--	--	--	--	--	(3/)	--	(3/)	--
Hardwood	--	--	--	--	--	--	0.1	0.9	0.1	0.9
Scrub oak										
Softwood	--	--	--	--	--	--	(3/)	(3/)	(3/)	(3/)
Hardwood	--	--	--	--	--	--	--	1.2	--	1.2
All types										
Softwood	0.5	--	4.3	0.3	4.1	0.2	0.4	(3/)	1.1	0.1
Hardwood	2.5	1.9	1.9	1.9	1.4	1.2	0.1	0.5	0.4	0.7

1/ Sound wood and bark, excluding volume of palms.

2/ Sound trees; cull trees.

3/ Less than 0.05 cords per acre.

Table 17.--Number[1/] of turpentine pine trees by working status and tree size, 1949

(in thousands of trees)

Working status	Pole size trees	Small saw-timber trees	Large saw-timber trees	All trees
Round timber[2/]	45,006	19,068	714	64,788
Working timber[3/]	--	775	45	820
Resting timber	639	2,874	219	3,732
Abandoned timber	44	916	79	1,039
Worked-out timber	11	536	138	685
All classes	45,700	24,169	1,195	71,064

1/ Includes sound and rough cull trees.

2/ In 1936 there were 19,137,000 round trees 9.0 inches d.b.h. and larger compared to 19,782,000 in 1949.

3/ In 1936 there were 2,434,000 working trees compared to 820,000 in 1949.

Table 18.--Area of turpentine timber crops by working status, 1949

Crop working status	Area	
	Acres	Percent
Round timber	221,700	49.5
Working timber		
Front-faced	21,600	4.8
Back-faced	17,500	3.9
Resting timber	87,000	19.4
Abandoned timber	81,700	18.3
Worked-out timber	18,300	4.1
All classes	447,800	100.0

Table 19.--Area of stump land and tonnage of wood naval stores stumps by availability class, 1949

Availability class	Area	Tonnage 1/
	Acres	Thousand tons
Merchantable area	3,121,100	4/ 8,344
Marginal area 2/	44,500	74
Potential area 3/	81,500	170
Inaccessible area	27,600	80
All classes	3,274,700	8,668

1/ Includes stumps on agricultural land.

2/ Stump-land areas less than 25 acres in extent and partially worked areas.

3/ Unworkable at present due to density of timber stands.

4/ A check on the tons of stumps harvested under existing practices indicates the recoverable tonnage is approximately two-thirds of the merchantable volume shown.

Table 20.--Number of trees[1/] by species group, quality class, and tree size, 1949

(in thousands of trees)

Species group and quality class	Sapling-size trees	Pole-size trees	Small saw-timber trees	Large saw-timber trees	All trees
Yellow pines:					
Sound trees	83,552	46,225	25,204	1,211	156,192
Rough culls	2,432	2,032	542	78	5,084
Rotten culls	1,187	46	214	52	1,499
Total	87,171	48,303	25,960	1,341	162,775
Other softwoods:					
Sound trees	97,337	37,751	11,240	359	146,687
Rough culls	8,807	3,151	676	97	12,731
Rotten culls	2,446	1,698	1,478	571	6,193
Total	108,590	42,600	13,394	1,027	165,611
Soft-textured hdwds.:					
Sound trees	86,614	20,216	4,292	873	111,995
Rough culls	42,731	11,685	1,305	141	55,862
Rotten culls	13,439	7,072	2,314	460	23,285
Total	142,784	38,973	7,911	1,474	191,142
Hard-textured hdwds.:					
Sound trees[2/]	63,155	11,059	2,085	622	76,921
Rough culls	215,128	48,116	5,877	1,530	270,651
Rotten culls	9,290	5,736	1,968	826	17,820
Total	287,573	64,911	9,930	2,978	365,392
Palms	(3/)	9,918	19,214	16	29,148
All species	626,118	204,705	76,409	6,836	914,068

1/ All trees 1.0 inch d.b.h. and larger.

2/ Includes scrub oak and noncommercial trees.

3/ Data not recorded.

Table 21.--Area of poorly stocked stands and unstocked areas by plantability classes, 1949

Forest type[1/]	No planting required[2/]	Suitable for machine planting	Hand planting required	All classes
	Acres	Acres	Acres	Acres
Longleaf pine	679,200	1,368,100	46,000	2,093,300
Slash pine	363,400	473,300	64,400	901,100
Loblolly pine	8,500	13,000	12,100	33,600
Pond pine	10,800	40,700	--	51,500
Sand pine	7,900	38,400	25,600	71,900
Upland hdwds.	71,500	49,400	51,900	172,800
Scrub oak	75,400	370,200	109,800	555,400
All types	1,216,700	2,353,100	309,800	3,879,600
Percent	31.4	60.6	8.0	100.0

1/ Lowland types not classified.

2/ Sufficient seed trees present or area is restocking naturally.

Table 22.--Commercial forest area by forest type and degree of stocking, 1949

STOCKING IN SOUND TREES

Forest type	Degree of stocking[1/]					Total area
	0-9 percent	10-39 percent	40-69 percent	70-99 percent	100 + percent	
	Acres	Acres	Acres	Acres	Acres	Acres
Longleaf pine	1,784,400	642,300	137,000	7,700	--	2,571,400
Slash pine	705,200	323,100	86,200	7,500	9,700	1,131,700
Loblolly pine	2,700	30,800	11,400	--	--	44,900
Pond pine	49,800	11,800	10,700	--	--	72,300
Sand pine	56,300	21,400	7,800	--	--	85,500
Cypress	5,100	41,400	60,700	55,400	124,700	287,300
Lowland hdwds.	162,400	214,600	202,300	73,100	87,800	740,200
Upland hdwds.	137,100	38,100	--	2,700	--	177,900
Scrub oak	522,500	32,900	--	--	--	555,400
Palm	80,600	--	--	--	--	80,600
All types	3,506,100	1,356,400	516,100	146,400	222,200	5,747,200
Percent	61.0	23.6	9.0	2.5	3.9	100.0

STOCKING IN TREES OF ALL QUALITY CLASSES[2/]

Longleaf pine	1,631,700	661,600	183,100	80,800	14,200	2,571,400
Slash pine	650,100	343,200	101,100	19,200	18,100	1,131,700
Loblolly pine	--	--	5,300	18,700	20,900	44,900
Pond pine	41,900	11,800	13,100	--	5,500	72,300
Sand pine	47,900	16,300	18,600	--	2,700	85,500
Cypress	5,100	21,600	32,600	70,200	157,800	287,300
Lowland hdwds.	82,000	87,900	98,200	161,900	310,200	740,200
Upland hdwds.	29,000	61,600	31,300	26,200	29,800	177,900
Scrub oak	198,400	203,900	119,800	12,600	20,700	555,400
Palm	43,200	36,600	--	--	800	80,600
All types	2,729,300	1,444,500	603,100	389,600	580,700	5,747,200
Percent	47.5	25.1	10.5	6.8	10.1	100.0

1/ Includes trees 1.0 inch d.b.h. and larger.

2/ Includes sound trees, cull trees, and palms.

Table 23 --County area by broad use class, 1949

County	Total area[1]	Non-forest area		Forest land		
		Land	Water	Non-commercial[2]	Commercial	
	Acres	Acres	Acres	Acres	Acres	Percent
Brevard	839,000	373,500	190,500	37,100	237,900	36.7
Citrus	423,100	59,200	50,000	3,700	310,200	83.1
De Soto	416,600	242,000	3,700	17,400	153,500	37.2
Hardee	403,200	113,000	6,800	2,800	280,600	70.8
Hernando	325,100	45,000	16,200	1,700	262,200	84.9
Highlands	716,200	331,800	56,800	24,800	302,800	45.9
Hillsborough	679,700	233,100	22,300	8,800	415,500	63.2
Indian River	350,700	211,500	20,100	20,800	98,300	29.7
Lake	744,300	177,900	143,200	29,500	393,700	65.5
Manatee	502,400	153,300	40,600	3,100	305,400	66.1
Okeechobee	499,200	325,300	61,000	8,600	104,300	23.8
Orange	641,900	115,800	63,900	12,200	450,000	77.9
Osceola	938,900	358,900	88,600	7,100	484,300	57.0
Pasco	494,100	98,900	36,100	9,100	350,000	76.4
Pinellas	197,800	81,400	37,900	3,400	75,100	47.0
Polk	1,310,700	403,700	113,200	22,800	771,000	64.4
St. Lucie	400,600	184,000	54,400	--	162,200	46.9
Sarasota	396,800	143,000	37,100	8,100	208,600	58.0
Seminole	225,300	65,300	26,100	--	133,900	67.2
Sumter	367,400	83,200	25,500	11,000	247,700	72.4
Unit total	10,873,000	3,799,800	1,094,000	232,000	5,747,200	58.8

1/ Gross area from Bureau of the Census, 1940.

2/ Non-productive forest land plus forest land withdrawn from commercial use.

Table 24.--Ownership of commercial forest land by county, 1949

County	Private		Public					
			National forest	Other federal	State	County, city, town	Total public	
	Acres	Percent	Acres	Acres	Acres	Acres	Acres	Percent
Brevard	227,900	95.8	--	1,200	5,300	3,500	10,000	4.2
Citrus	267,500	86.2	--	40,700	2,000	--	42,700	13.8
De Soto	152,700	99.5	--	100	500	200	800	0.5
Hardee	279,600	99.6	--	--	1,000	(1/)	1,000	0.4
Hernando	223,500	85.2	--	36,600	600	1,500	38,700	14.8
Highlands	272,400	90.0	--	26,400	3,000	1,000	30,400	10.0
Hillsborough	412,300	99.2	--	1,200	--	2,000	3,200	0.8
Indian River	91,100	92.7	--	600	4,500	2,100	7,200	7.3
Lake	319,700	81.2	65,500	1,000	3,300	4,200	74,000	18.8
Manatee	297,800	97.5	--	100	7,400	100	7,600	2.5
Okeechobee	103,400	99.1	--	(1/)	600	300	900	0.9
Orange	448,200	99.6	--	400	900	500	1,800	0.4
Osceola	483,300	99.8	--	100	500	400	1,000	0.2
Pasco	342,700	97.9	--	6,800	400	100	7,300	2.1
Pinellas	74,000	98.5	--	200	200	700	1,100	1.5
Polk	745,600	96.7	--	21,600	100	3,700	25,400	3.3
St. Lucie	160,400	98.9	--	--	1,000	800	1,800	1.1
Sarasota	204,000	97.8	--	100	4,100	400	4,600	2.2
Seminole	131,500	98.2	--	600	400	1,400	2,400	1.8
Sumter	214,100	86.4	--	32,700	900	--	33,600	13.6
Unit total	5,451,700	94.9	65,500	170,400	36,700	22,900	295,500	5.1

1/ Less than 50 acres.

Table 25.--Net volume[1/] of saw timber by county and species group, 1949

(in thousand board feet)

County	Softwoods[2/]	Tupelo, sweet-gum, and soft maple[3/]	Other hardwoods	All species
Brevard	88,700	1,500	700	90,900
Citrus	195,800	76,200	21,400	293,400
De Soto	50,000	3,600	400	54,000
Hardee	61,600	35,900	14,300	111,800
Hernando	139,700	53,600	55,500	248,800
Highlands	68,800	26,500	--	95,300
Hillsborough	181,100	27,700	45,100	253,900
Indian River	56,500	1,200	--	57,700
Lake	191,900	49,400	9,800	251,100
Manatee	74,800	33,400	1,700	109,900
Okeechobee	94,400	9,000	4,100	107,500
Orange	256,100	20,000	5,900	282,000
Osceola	174,700	32,500	2,600	209,800
Pasco	130,500	19,300	18,900	168,700
Pinellas	29,600	--	--	29,600
Polk	342,400	47,800	19,000	409,200
St. Lucie	81,700	7,300	--	89,000
Sarasota	99,900	100	--	100,000
Seminole	59,700	42,000	17,400	119,100
Sumter	149,100	41,400	54,800	245,300
Unit total	2,527,000	528,400	271,600	3,327,000

1/ Log scale, International 1/4-inch rule.

2/ Includes pine, cypress, and cedar.

3/ Includes other soft-textured hardwoods.

Table 26.--Net volume[1/] of saw timber by county, broad species group, and diameter class group, 1949

County	Softwoods		Hardwoods		Soft-woods	Hard-woods
	9-14 inches	15 + inches	11-16 inches	17 + inches		
	Thousand bd. ft.	Thousand bd. ft.	Thousand bd. ft.	Thousand bd. ft.	Percent	Percent
Brevard	80,700	8,000	400	1,800	97.6	2.4
Citrus	177,900	17,900	51,100	46,500	66.7	33.3
De Soto	48,700	1,300	4,000	--	92.6	7.4
Hardee	57,900	3,700	18,300	31,900	55.1	44.9
Hernando	124,300	15,400	60,600	48,500	56.1	43.9
Highlands	59,500	9,300	16,100	10,400	72.2	27.8
Hillsborough	172,200	8,900	42,500	30,300	71.3	28.7
Indian River	54,800	1,700	1,200	--	97.9	2.1
Lake	156,500	35,400	43,200	16,000	76.4	23.6
Manatee	45,500	29,300	23,900	11,200	68.1	31.9
Okeechobee	84,800	9,600	5,100	8,000	87.8	12.2
Orange	192,800	63,300	22,300	3,600	90.8	9.2
Osceola	161,700	13,000	29,600	5,500	83.3	16.7
Pasco	129,500	1,000	16,300	21,900	77.4	22.6
Pinellas	20,700	8,900	--	--	100.0	--
Polk	311,200	31,200	46,700	20,100	83.7	16.3
St. Lucie	77,700	4,000	7,300	--	91.8	8.2
Sarasota	87,200	12,700	100	--	99.9	0.1
Seminole	44,000	15,700	46,800	12,600	50.1	49.9
Sumter	131,000	18,100	57,400	38,800	60.8	39.2
Unit total	2,218,600	308,400	492,900	307,100	76.0	24.0

1/ Log scale, International 1/4-inch rule.

Table 27.--Net volume[1/] of all trees by county, pulping-species groups, and tree diameter groups, 1949

SOUND TREES (in thousand cords)

County	Yellow pines		Tupelo, sweetgum and soft maple[2/]		Other species		All species
	5-12 inches	13 + inches	5-12 inches	13 + inches	5-12 inches	13 + inches	
Brevard	364	26	3	4	18	2	417
Citrus	484	89	108	167	277	128	1,253
De Soto	187	2	53	--	151	15	408
Hardee	332	21	151	78	55	38	675
Hernando	278	98	159	96	350	141	1,122
Highlands	392	31	133	50	68	--	674
Hillsborough	574	48	86	51	291	131	1,181
Indian River	149	13	6	--	64	17	249
Lake	546	153	150	104	412	48	1,413
Manatee	341	71	44	70	14	4	544
Okeechobee	346	13	40	15	122	64	600
Orange	525	213	152	42	524	59	1,515
Osceola	424	24	172	44	645	97	1,406
Pasco	449	25	65	36	349	52	976
Pinellas	69	32	--	--	17	1	119
Polk	1,010	151	280	89	810	110	2,450
St. Lucie	187	38	75	9	169	44	522
Sarasota	201	125	--	--	1	--	327
Seminole	109	46	135	65	127	49	531
Sumter	375	75	225	88	479	140	1,382
Unit total	7,342	1,294	2,037	1,008	4,943	1,140	17,764

ROTTEN AND ROUGH CULLS (in thousand cords)

Brevard	20	4	--	4	63	35	126
Citrus	2	--	61	71	444	369	947
De Soto	--	--	55	9	140	45	249
Hardee	4	--	27	25	118	77	251
Hernando	--	--	94	68	454	211	827
Highlands	10	--	69	23	14	11	127
Hillsborough	16	--	59	24	334	247	680
Indian River	1	--	10	--	93	13	117
Lake	82	33	169	127	459	230	1,100
Manatee	8	--	30	25	74	63	200
Okeechobee	1	--	34	22	26	34	117
Orange	1	--	139	79	467	32	718
Osceola	13	--	188	110	328	395	1,034
Pasco	--	--	59	33	338	103	533
Pinellas	1	--	--	--	8	14	23
Polk	52	--	253	73	376	116	870
St. Lucie	25	--	56	8	13	40	142
Sarasota	5	18	4	1	51	40	119
Seminole	13	--	43	51	143	146	396
Sumter	6	--	333	158	236	396	1,129
Unit total	260	55	1,683	911	4,179	2,617	9,705

1/ Sound wood and bark, excluding volume of palms. Limbs of sound saw-log-size hardwoods are included in cull volumes.

2/ Includes bay, magnolia, and yellow-poplar.

DEFINITION OF TERMS

Land-Use Classes

Forest. Land bearing forest growth, land from which the forest has been removed and which shows no evidence of any other recent land use, or former agricultural land which now has a five-percent stocking of trees. Subdivided into the following classes:

> Commercial: Land bearing, or capable of bearing, timber of commercial character and available now or prospectively for commercial use.
>
> Reserved: Forest land in public ownership upon which commercial timber cutting is prohibited.
>
> Non-productive: Forest land of such low productivity or so inaccessible that commercial timber will not be produced.

Non-forest. Land less than five percent stocked with trees and showing evidence of non-forest use.

> Agriculture: Under cultivation or in pasture, including farm yards on active farms.
>
> Idle: Land previously cultivated or pastured but now idle or abandoned. If reverting to forest there must be less than five percent stocking of trees.
>
> Marsh: Low, boggy, non-forested land usually supporting a heavy growth of grass.
>
> Dunes and beaches: Non-forested sand dunes or coastal beaches.
>
> Urban and other: Includes towns, suburban areas being developed for residential or other urban purposes, school yards, cemeteries, industrial sites, roads, railroads, power lines, and other rights-of-way. Scattered areas of timber within exterior boundaries of cities or villages are also included.
>
> Water: Includes both the small ponds and lakes less than 40 acres in size and streams, sloughs, and canals less than ten chains in width classed as "land area" by the Bureau of the Census. Also includes the "inland water" listed by the Census. On coastal areas the water-line is the mean high-tide mark; tidal flats are classed as water.

Forest Types

Longleaf pine. Stands in which coniferous species comprise at least 25 percent of the dominant and codominant trees, with longleaf pine predominating.

Slash pine. Stands in which coniferous species comprise at least 25 percent of the dominant and codominant trees, with slash pine predominating.

Loblolly pine. Stands in which coniferous species comprise at least 25 percent of the dominant trees, with loblolly pine predominating. Stands of spruce pine and redcedar are included in this type.

Pond pine. Stands in which coniferous species comprise at least 25 percent of the dominant and codominant trees with pond pine predominating.

Sand pine. Stands in which coniferous species comprise at least 25 percent of the dominant and codominant trees with sand pine predominating.

Cypress. Stands in which coniferous species comprise at least 25 percent of the dominant and codominant trees, with cypress predominating. White cedar is also included with this type.

Lowland hardwoods. Stands in which mixed hardwoods such as tupelo gum, black-gum, sweetgum, white oak, water oak, red maple, and ash comprise at least 75 percent of the dominant and codominant trees. Found along rivers, small streams, and in swamps and bays.

Upland hardwoods. Stands in which mixed hardwoods such as red oak, white oak, post oak, hickory, ash, sweetgum, elm, and yellow-poplar comprise at least 75 percent of the dominant and codominant trees. Found on the drier upland sites and on low rolling hills bordering the flatwood zone.

Scrub oak. Stands in which scrub species such as blackjack, bluejack, turkey and laurel oaks predominate and in which sound commercial species comprise less than five percent of satisfactory stocking.

Palms. Stands in which there is at least a five-percent stocking of merchantable palm trees and less than five-percent stocking of other sound commercial species.

Stand-Size Classes

Saw timber. Stands containing at least 1,500 board feet net, International 1/4-inch log rule, per acre in sound, live, softwood trees 9.0 inches d.b.h. or larger or hardwood trees 11.0 inches d.b.h. or larger. Two classes of saw-timber stands are recognized:

Large saw timber: Stands of saw timber having more than 50 percent of the net board-foot volume in softwood trees 15.0 inches d.b.h. or larger, or hardwood trees 17.0 inches d.b.h. or larger.

Small saw timber: Stands of saw timber having 50 percent or less of the net board-foot volume in softwood trees 15.0 inches d.b.h. or larger, or hardwood trees 17.0 inches d.b.h. or larger.

Pole timber. Stands at least 10 percent stocked with pole-size or larger timber, with at least one-half the minimum stocking in pole sizes, and which have less than 1,500 board feet net per acre of saw timber.

Seedling and sapling. Stands less than 10 percent stocked by pole-size or larger trees and with less than 1,500 board feet net per acre, but at least 40 percent stocked with commercial species. Eight hundred seedlings or saplings per acre are considered full stocking.

Poorly stocked and unstocked. Stands of pole-size or larger trees that are less than 10 percent stocked, seedling or sapling stands less than 40 percent stocked, or nonstocked forest land.

Diameters

D.b.h. (diameter at breast height). Stem diameter in inches, outside bark, measured at 4½ feet above the ground.

Diameter class. All trees were tallied by 2-inch diameter classes, each class including diameters 1.0 inch below and 0.9 inch above the stated midpoint; e.g., trees 7.0 to and including 8.9 inches are in the 8-inch class.

Tree Classification

Sound saw-timber trees. Softwood trees at least 9.0 inches d.b.h. and hardwood trees at least 11.0 inches d.b.h., with not less than one merchantable log 12 feet long, or with less than 50 percent of the gross volume of the tree in sound saw timber.

Sound pole timber trees. Straight-boled trees between 5.0 inches d.b.h. and saw-timber size.

Sound sapling-size trees. Trees 1.0 inch to 4.9 inches d.b.h. which will grow into pole or saw-timber size trees of sound quality.

Rough cull trees. Trees that fail to qualify as sound timber because of poor form, excessive limbiness, or other sound defect. Volumes shown for rough cull trees also include the limbs, in sections four feet long and at least 4.0 inches in diameter inside bark, of sound saw-timber-size hardwoods. Scrub oak and noncommercial species are included in this group.

Rotten cull trees. Trees that fail to qualify as sound timber because of rotten defect.

Palms. All species of Sabal 5.0 inches d.b.h. and larger with at least 12 feet of clear stem. All palm trees were considered to be free of rotten defect.

Species Groups

Softwoods. All of the pines, eastern redcedar, Atlantic white-cedar, pond cypress, and baldcypress.

Soft hardwoods. Black and water tupelos, sweetgum, and soft maple. The other soft-textured hardwoods include sweetbay, cottonwood, willow, basswood, southern magnolia, and yellow-poplar.

Hard hardwoods. All of the oaks, hickories, and ash. The other hard-textured hardwoods include river birch, elm, hackberry, and sycamore.

Volume Estimates

Board-foot volume. The volume in board feet, measured by the International 1/4-inch rule, exclusive of defect, of that portion of saw-timber trees between the stump and the upper limit of merchantability for sawlogs.

Volume in cords. For sound trees the volume in standard cords (including bark) of the sound portion of trees 5.0 inches d.b.h. and larger, between stump and a minimum top-stem diameter of 4.0 inches inside bark. For cull trees similar volumes are included plus the volume in limbs, in sections four feet long and at least 4.0 inches in diameter inside bark, of saw-timber size hardwoods.

Volume in cubic feet. Same as volume shown in cords except bark is not included.

International 1/4-inch log rule. A rule for estimating the board-foot volume of 4-foot log sections, according to the formula $V = .905\ (0.22D^2 - 0.71D)$. The taper allowance for computing the volume in log lengths greater than four feet is 0.5 inch per 4-foot section. Allowance for saw kerf is 1/4 inch.

Standard cord. A stacked pile, 4 x 4 x 8 feet, of round or split bolts, estimated to contain, on the average, 90 cubic feet of softwoods (wood and bark) or 80 cubic feet of hardwoods (wood and bark).

Gum Naval Stores Conditions

Round timber. A minimum of 15 longleaf and slash pine trees 9.0 inches d.b.h. or larger per acre that have never been worked for naval stores.

Working. Longleaf and slash pine trees that are now being worked for naval stores.

> Front-faced. Turpentine tree species on which the front or first face is now being worked.
>
> Back-faced. Turpentine tree species on which the front face has been worked out and on which a back (second or third, etc.) face is being worked.

Resting. Longleaf and slash pine trees with a worked-out front face at least 5 feet high and on which back-facing has not been started.

Abandoned. Longleaf and slash pine trees on which faces less than 5 feet high were discontinued.

Worked-out. Longleaf and slash pine trees on which two or more faces at least 5 feet high have been worked out and with no possibility of supporting another face.

Stocking

Stocking classifications were based on the number of stems present by d.b.h. classes. Areas having the minimum numbers of trees listed below, either in a single diameter class or in combinations, were considered adequately stocked.

DBH	Minimum number trees per acre
2 inches	800
4 inches	600
6 inches	450
8 inches	300
10 inches	200
12 inches	150
14 inches	110

RELIABILITY OF THE DATA

In general there are two possible sources of error in estimating timber volumes and land areas in various categories under procedures used by the Forest Survey. These are (1) common mistakes resulting from errors of judgment in classifying or recording data, mistakes made in compiling the information or bias in the application of techniques, and (2) sampling errors.

In Forest Survey work a diligent effort is made to maintain a high degree of accuracy in the collection and compilation of the data. Common errors are eliminated or minimized through training and frequent check cruises in the field and through complete editing and machine verification of office procedures in compiling the data.

Sampling errors (standard errors of estimate) carry no connotation of faulty work but are theoretical measures of the reliability of the estimates based on the variability exhibited by the sample data. Sampling errors were the only measurable errors involved in computing the reliability of the data.

Forest area. The sampling intensity was sufficient to provide an estimate of the forest acreage of the Unit with a standard error of ± 0.9 percent. This indicates the probabilities are two out of three that the actual forest area is within ± 0.9 percent of the given estimate.

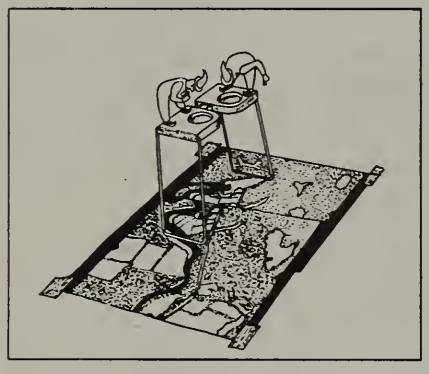
Timber volumes. The standard error of estimate of the board-foot volume of saw timber in the Unit is ± 3.0 percent. Here again, the probabilities are two out of three that the actual volume is ± 3.0 percent of the given estimate. Corresponding errors for the total volume in cords or cubic feet were not computed, but they should be smaller.

Use of county data. The tables showing area and timber volumes by county are included to facilitate the grouping of county data in any combination desired. Statistics for individual counties have a standard error of estimate for forest area ranging from ± 2.5 to ± 12.0 percent, and for board-foot volume from ± 13.0 to ± 18.0 percent. Obviously, detailed comparisons between counties are subject to considerable error and should be avoided. Grouping a number of counties together will increase the reliability of the area and volume estimates and make these data sufficiently accurate for most general purposes.

HOW THE FOREST INVENTORY IS MADE

The present system of inventory is based upon interpretation of aerial photographs supplemented by cruising of randomly selected ground plots. The county is the basic work unit. Steps in the procedure are as follows:

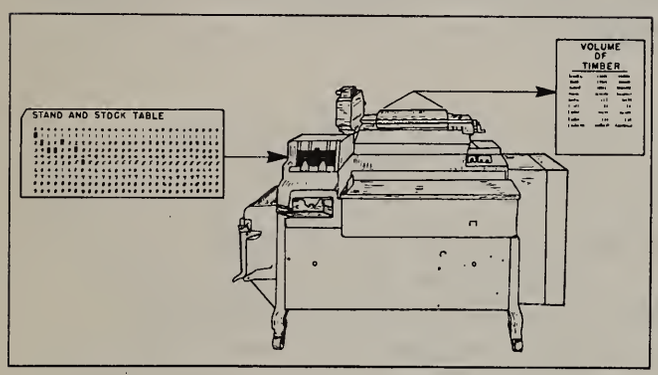
1. Acreages of forest land are estimated with the use of a dot grid placed on every 3rd contact print along flight lines in each county. The proportion of dots falling on forest areas when applied to the gross area of the county yields a preliminary estimate of the acreage of forest land. This is later revised after certain field checks.



2. Every 3rd plot listed as forest in step one is classified into forest type, stand class, and density class by careful stereoscopic analysis of the photographs. The proportion of plots falling in each classification when applied to the forest area of the county gives the area in each classification. These areas are revised following ground checking.

3. Timber cruisers make a detailed on-the-ground tally of every 3rd large sawtimber photo plot, every 4th small sawtimber, every 6th pole timber, every 13th seedling and sapling plot, and every 26th poorly stocked plot, to obtain volume, growth, cull and mortality data, and to check accuracy of photo classification. They also check a sample of the idle and agricultural plots to determine the area reverting to forest.

4. Growth estimates are based on increment borings taken from trees of the various diameters and species in each forest type and stand class.



5. All field data are sent to the Asheville office for editing and are placed on punch cards for machine tabulation. Statistical techniques are used to correct for changes in photo classification, and to determine final figures on areas, volumes, and growth.

FOREST SURVEY REPORTS PUBLISHED SINCE 1945

Southeastern Forest Experiment Station

No. 21 - 1945 Pulpwood Production by County in the Carolinas and Virginia.

No. 22 - Southern Forests as a Source of Pulpwood.

No. 23 - 1946 Pulpwood Production by County in the Southeast.

No. 24 - Southern Pulpwood Production and the Timber Supply.

No. 25 - Forest Resources of the Lower Coastal Plain of South Carolina.

No. 26 - 1946 Commodity Drain by County from South Carolina Forests.

No. 27 - 1947 Pulpwood Production by County in the Southeast.

No. 28 - South Carolina's Forest Resources, 1947.

No. 29 - 1948 Pulpwood Production by County in the Southeast.

No. 30 - Forest Resources of Northeast Florida, 1949.